Historic, archived document

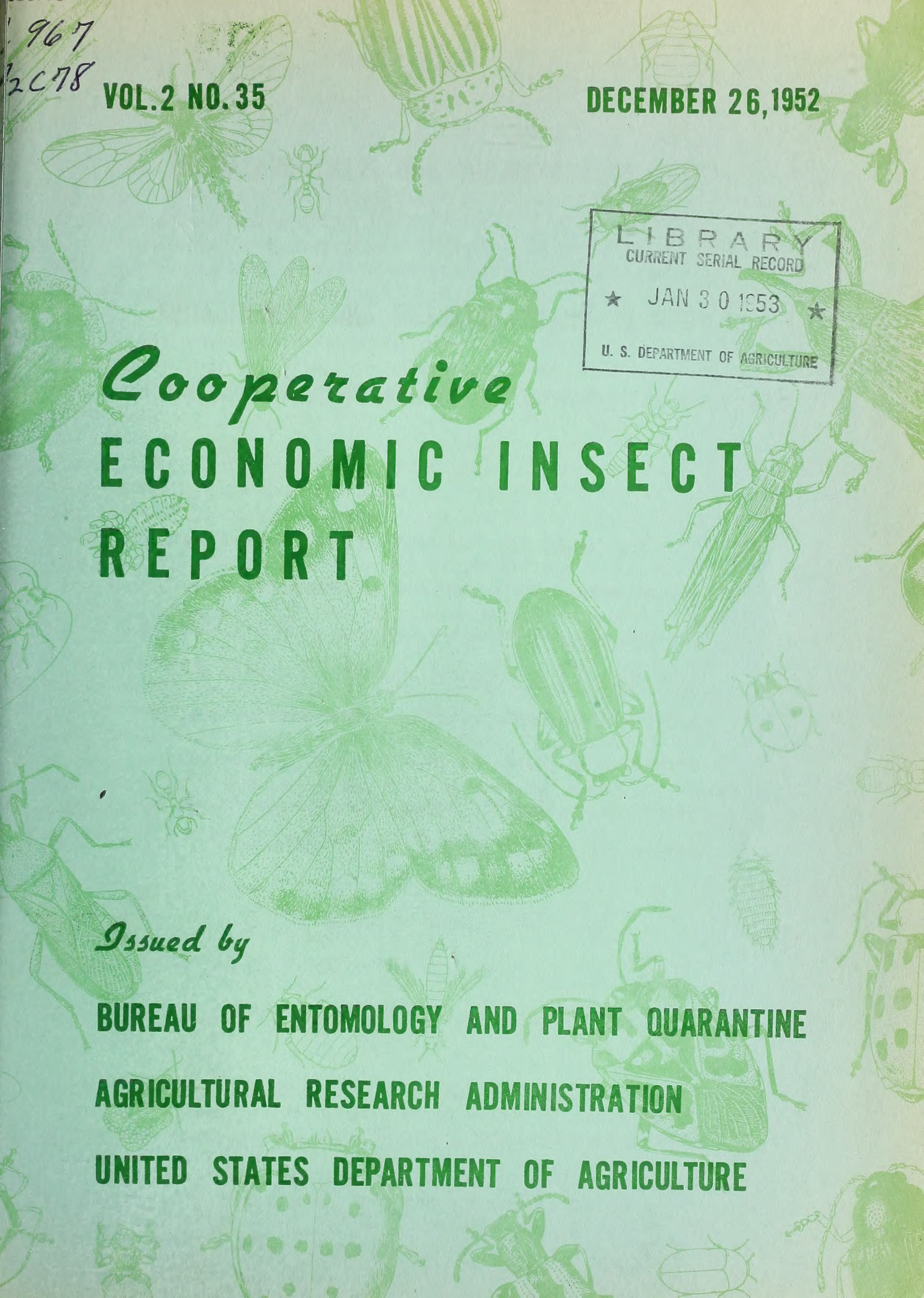
Do not assume content reflects current scientific knowledge, policies, or practices.

967
2C78

VOL. 2 NO. 35

DECEMBER 26, 1952

LIBRARY
CURRENT SERIAL RECORD
★ JAN 30 1953 ★
U. S. DEPARTMENT OF AGRICULTURE



Cooperative ECONOMIC INSECT REPORT

Issued by

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
AGRICULTURAL RESEARCH ADMINISTRATION
UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

DIVISION OF INSECT DETECTION AND IDENTIFICATION

SECTION OF ECONOMIC INSECT DETECTION AND REPORTING

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Bureau serves as a clearing house and does not assume responsibility for accuracy of the material.

Reports and inquiries pertaining to this release
should be mailed to:

Section of Economic Insect Detection and Reporting
Bureau of Entomology and Plant Quarantine
Washington 25, D. C.

Volume 2 December 26, 1952 No. 35

COOPERATIVE ECONOMIC INSECT REPORT

With this final issue of 1952, you may be interested to know some of the developments that have occurred between No. 1 and No. 35 of Volume 2 of the Cooperative Economic Insect Report. At the beginning of this report year, which was in May, the cotton and vegetable insect reports that had been issued weekly were combined with the Report so that now only the one weekly report is issued by the Bureau. The mailing lists used by all the previous releases were combined, and during the year over 1,000 names were added to this consolidated list. At present, the Report is being received by over 2,900 agricultural and related industrial and professional workers or agencies throughout the United States as well as in some foreign countries.

During 1952 the Section of Economic Insect Detection and Reporting, Division of Insect Detection and Identification, has received reports on insect conditions from each of the 48 states. Almost 50 percent of the states reported weekly during the months of greater insect activity. The majority of the notes were of current interest; all were valuable additions to the permanent files, which include records on over 24,000 domestic and 30,000 foreign species. More than 350 individuals cooperated in submitting items this year, and it is hoped that such participation will be even more widespread in 1953. The outstanding insect developments in the Country during 1952 (as reported) were summarized and submitted to the newly established FAO Plant Protection Bulletin, a publication of the World Reporting Service on Plant Diseases and Pests, Rome, Italy.

We wish to take this opportunity to acknowledge, with appreciation, the fine cooperative spirit displayed this year and look forward to reporting insect activity as you see it during the coming season.

Highlights of Insect Conditions

Fall survey of potato-infesting APHIDS in Maine (page 451)

SUMMARY OF INSECT CONDITIONS in Missouri (page 453), Wisconsin (page 454).

Some new records of INSECTS IN CANADA in 1952. (page 455)

MEXICAN FRUIT FLY survey methods (page 459)

WEATHER FOR THE WEEK ENDING DECEMBER 23, 1952

The cold polar air mass that had advanced southeastward to the Gulf attended by freezing as far South as San Antonio, Texas, the Gulf Coast and central Florida by the 16th, passed slowly to the Atlantic Ocean. Meanwhile a depression was advancing eastward over eastern Canada. This pressure distribution induced southerly winds over practically the eastern portion of the Country, except Florida, and temperatures were as low in northern Florida as in the Lake Region and the northeast on the 16th and 17th. The freeze extended into the Everglades of Florida, causing damage to unprotected truck crops in that State.

These much below normal temperatures in southern areas east of the Rockies during the first part of the week were followed by warmer weather during the latter part. Elsewhere over the Country mostly mild temperatures for the season generally prevailed, except for sub zero temperatures in the Dakotas, Minnesota, Wisconsin, and some adjacent areas on the 18th and 19th, and for a sharp temperature drop in the California-Nevada-Arizona area at the end of the period. On the morning of the 22nd, the temperature was 31° at Fresno, California, and orchard heating was required in the colder districts near Los Angeles. Freezing also occurred on this date in southern valleys of Arizona.

Temperatures for the week averaged much warmer than usual over the major portion of the Country, with plus departures of 6° to 10° in the middle and southcentral Rocky Mountains, extreme southern Texas and in a large area extending from the Dakotas eastward to the Appalachians and southward to Tennessee. The week was from 1° to 6° cooler than normal in Florida, south Georgia, central and western Kansas, a few far northwestern and Pacific Coastal Districts, and some adjacent areas.

Total precipitation for the week was moderate to moderately heavy in the Pacific States, Arizona and southern Utah, from southcentral Texas and Louisiana northward over eastern Nebraska and Iowa and thence northeastward to Lower Michigan, in southern Mississippi, central Alabama, the central and lower portion of Georgia, and the Carolinas and in some North Atlantic Coastal areas. Elsewhere amounts were mostly light to moderate. (Summary Supplied by U. S. Weather Bureau)

Fall Survey of Aphid Eggs in Maine

A cooperative survey was conducted in northeastern Maine November 4 to 7, 1952 to determine the abundance of fully distended aphid eggs on the more important primary hosts of 3 species of potato-infesting aphids (see table).

	Prunus nigra	Rhamnus alnifolia	Rosa palustris	
Primary host:	Buds	Buds	Buds	Crotches
Number of stations sampled				
Fall, 1952	24	8	11	11
Fall, 1951	24	8	10	10
Fall, 1950	24	8	11	11
Percent of stations having fully distended aphid eggs				
Fall, 1952	63	100	73	73
Fall, 1951	63	100	70	80
Fall, 1950	58	100	100	88
Average number of fully distended eggs per 100 units of sample at infested stations				
Fall, 1952	0.73	86.55	8.19	6.94
Fall, 1951	0.34	7.56	3.91	1.71
Fall, 1950	0.50	96.35	8.42	9.30

BUCKTHORN APHID (Aphis abbreviata) eggs on alder buckthorn (Rhamnus alnifolia) were found at all sampling stations. Overall abundance is now about 12 times as great as a year ago, but slightly less than at the same time in 1950. Present abundance is due to unusually large numbers of eggs in the Bridgewater-Mars Hill district. Elsewhere the eggs are in about average abundance or slightly below.

Aphid eggs on Canada plum (Prunus nigra) - a primary host for the GREEN PEACH APHID (Myzus persicae) - are now about twice as abundant as at the same time in 1951, and 1-1/2 times that of the fall of 1950. Observations and counts of aphids on this host plant earlier in the fall indicate that a very small percentage of the eggs now present were deposited by the green peach aphid.

Aphid eggs now on swamp rose (Rosa palustris) - the most important primary host of the POTATO APHID (Macrosiphum solanifolii) in northeastern Maine - are more than twice as abundant as at the same time in 1951. This abundance - about the same as in the fall of 1950 - is only about 80 to 85 percent of the 10-year average for this time of year, and evidence indicates that an unusually large percentage of the eggs now on the plant were deposited by the potato aphid. (W. A. Shands, G. W. Simpson, H. E. Wave)

APHIDS (Aphidae) -- FLORIDA - Heavy infestations of cabbage aphid (Brevicoryne brassicae) and turnip aphid (Rhopalosiphum pseudobrassicae) continue on cole crops in Gadsden County and adjacent area. (L. M. May)

CEREAL AND FORAGE INSECTS

EUROPEAN CORN BORER INFESTATION LIGHT IN VERMONT --

Survey in ten counties shows an average of only 5 borers per one hundred plants. Though the variation from last year's 6 per one hundred plants is not very significant, it is far below the 50 or more found in the same number of plants 10 or 12 years ago. The range by counties varied from 2 to 10 this year, with 2, 3, and 4 the more common numbers. (Agriview, H. L. Bailey)

SUMMARY OF INSECT CONDITIONS - 1952

MISSOURI

Reported by S. Kyd

Cereal and Forage Insects: EUROPEAN CORN BORER (*Pyrausta nubilalis*) damage was very slight except in a few fields of unusually early corn. Fall survey, though incomplete (11-17), is showing a light carryover for '53. Probably the most damaging field crop insect in Missouri was CORN EARWORM (*Heliothis armigera*). The infestation developed into one of the worst in years. Damage was extremely severe on corn and soybeans. A generation of the worms attacked the beans when the crop was at the milk and soft-dough stage, causing serious damage over a large portion of the State. Some fields were completely ruined by the worms feeding on the pods. GREEN CLOVERWORM (*Plathypena scabra*) infestations on soybeans were heavy in some areas. BEAN LEAF BEETLE (*Cerotoma trifurcata*) was heavy in most soybean fields over the entire State, it seemed, causing considerable damage to the foliage. It has not been determined, however, whether or not these last two insects caused much reduction in yields. During the early spring there was considerable PEA APHID (*Macrosiphum pisi*) infestation on legumes. CUTWORMS, ARMY CUTWORMS AND ARMYWORMS were also present on forage crops early in the season. Damage was not confined to any particular area, but was somewhat general throughout the State. GRASSHOPPER infestation was spotted over the State. In some small, isolated areas infestations were very severe, and, in general, the population was up considerably this past summer. The fall was open and should weather next spring be favorable for grasshopper development, it seems almost certain that there will be considerable damage during 1953, especially in the localized areas having heavy infestations in 1952. The CHINCH BUG (*Blissus leucopterus*) situation was very similar to the grasshopper situation. Reports of damage in isolated, localized areas were received from several sections of the State. This is another situation that must be watched closely in 1953 to determine whether or not a general build-up is occurring over a large area. HESSIAN FLY (*Phytophaga destructor*) damage has been extremely low even though the fly-free date is being almost completely ignored over the entire State. WHEAT JOINTWORM (*Harmolita tritici*) seems to be increasing somewhat, but still has not reached the point where it is a particularly serious pest. Damage to corn by such pests as WIREWORMS and ROOTWORMS was about normal. Field infestations of corn by ANGOUMOIS GRAIN MOTH (*Sitotroga cerealella*) seem to be fairly light this fall and primarily confined to the southern portion of the State. A certain amount of field infestation in this area is common, however.

Fruit Insects: There was an unusually heavy CODLING MOTH (Carpocapsa pomonella) infestation this year. Damage is up considerably over the past severeal years. RED-BANDED LEAF ROLLER (Argyrotaenia velutinana) population, as observed at harvest, is considerably under that of the past several years. THRIPS were unusually abundant during early spring and were found in the blossoms of many fruits, particularly blackberries. Damage to roses was unusually heavy during the spring months.

Vegetable Insects: There was nothing particularly unusual in this group with the exception of TOMATO FRUITWORM (Heliothis armigera). This insect caused extremely severe damage in several of the commercial tomato areas. MEXICAN BEAN BEETLE (Epilachna varivestis) and BEAN LEAF BEETLE (Cerotoma trifurcata) caused considerable damage, but a certain amount of damage is expected from these insects.

Cotton Insects: Insect damage to cotton, generally, was very light. There was very little APHID damage, a small amount of SPIDER MITE damage during the extremely dry portion of the summer and a small amount of BOLLWORM damage toward the end of the growing season. It is doubtful, however, whether insects caused very much reduction in the cotton yield.

Livestock Insects: There was no unusual livestock pest problem this year. HORN FLIES, STABLE FLIES, HORSE FLIES were about normal in abundance. SCREW-WORM (Callitroga americana) was quite low throughout the summer and fall and HORSE FLIES were not as numerous as in the past several years. A small amount of SHEEP SCAB has been found in different sections of the State, but the incidence of scab is still quite low.

WISCONSIN

Reported by E. L. Chambers

EUROPEAN CORN BORER (Pyrausta nubilalis) did not cause as serious damage to the bumper 1952 corn crop as was caused to corn crops the previous two years. The number of larvae found per 100 stalks during the fall survey was 37. GRASSHOPPERS were abundant and required control measures in less than 10 counties in the drier areas of the State, while ARMYWORM (Pseudaletia unipuncta) caused several million dollars damage to small grains and corn in a dozen southern counties.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae) infestation on fruit was the most abundant ever recorded, and APPLE MAGGOT (Rhagoletis pomonella) was unusually abundant in unsprayed and improperly sprayed orchards. While BLACK-HEADED FIREWORM (Rhopobota naevana) on cranberries was very abundant, CRANBERRY FRUITWORM (Mineola vaccinii) gave the most trouble and caused loss of thousands of barrels of cranberries this year.

POTATO LEAFHOPPER (Empoasca fabae) was more abundant and destructive than for many years, as was CABBAGE MAGGOT (Hylemya brassicae).

The insect attracting the most attention in the Wisconsin forest areas was the LARCH CASEBEARER (Coleophora laricella). This infestation resulted in the temporary browning of all larch trees throughout the State, giving the foliage the appearance of having been killed by late frost. This attack was followed by severe defoliation of pines in limited areas by several species of SAWFLY larvae, the INTRODUCED PINE SAWFLY (Diprion simile), a newly established pest of white pine in northern Wisconsin, being most noticeable. FOREST TENT CATERPILLAR (Malacosoma disstria) was very abundant in several northwest counties. SARATOGA SPITTLEBUG (Aphrophora saratogensis) required airplane control measures over several hundred acres. RED-HUMPED CATERPILLAR (Schizura concinna) and WHITE-PINE SAWFLY (Neodiprion pinetum) defoliated large areas in late fall.

Housewives were troubled more than usual by heavy infestation of CLOVER MITE (Bryobia praetiosa), STRAWBERRY WEEVIL (Anthonomus signatus), HOUSE CRICKETS, BOXELDER BUG (Leptocoris trivittatus), and HACKBERRY PSYLLA, which caused annoyance in their homes.

SOME NEW RECORDS OF INSECTS IN CANADA IN 1952

Reported by C. G. MacNay

A TICK, Argas reflexus, not previously recorded from Canada, was found among other ticks taken from a bird's nest at Summerland, B. C.

A PYRALID, Aphomia gularis, found infesting a warehouse in Vancouver, B. C., had not previously been reported in the Province, and had been recorded on only one other occasion in Canada, namely, at Montreal, Quebec, in 1934. The insect is a pest of stored rice, nuts, and dried fruit.

AN EUROPEAN TORTRICID, *Cacoecia oporana*, was reared from larvae found feeding on snowberry, *Symphoricarpos* sp., at Vancouver, B. C., during the past season. The insect was not known to be established in the Province, although a single male was taken at light in Vancouver in 1937. In 1950 two specimens were taken on imported horse chestnut in a Toronto, Ontario, nursery. The species had not previously been recorded from any food plant in North America. In Europe and Asia it feeds on a wide range of plants, including apple, pear, plum, quince, cherry, blackberry, walnut, etc. It is a rather serious pest of apple in orchard and storage in England.

A PLANT BUG, *Lygus nigrosignatus*, was reported to be abundant on cultivated mustard from Coutts eastward to Clarinda, in Alberta. This is the first record in Canada. The insect was originally described from Washington and Idaho, U.S.A.

A TENEBRIONID, *Cynaeus angustus*, first recorded in Canada at Diana, Sask. in 1944, on grain, was found to be generally prevalent on cereal products in a mill at Medicine Hat, Alta., in 1952. The insect is a comparatively minor pest of stored grain and cereal products in the United States.

TOMATO HORNWORM (*Protoparce quinquemaculata*) - An occurrence on tomatoes was reported from Carnduff, Sask., in 1952. This is the first known record of the insect in Saskatchewan. Carnduff is located in the extreme southern part of the Province.

LARGER YELLOW ANT (*Lasius interjectus*) - An infestation which occurred recently in a dwelling in Hamilton, Ontario, constitutes the first recorded occurrence of this insect in Canada.

BROWN-HEADED ASH SAWFLY (*Tomostethus multicinctus*) - Larvae found feeding on an ash tree in London, Ontario, in June. The record is apparently the first in Canada although the insect has been known to be present in the New England States, U.S.A., for some time.

A CURCULIONID, *Apion longirostre* - A widespread infestation occurred on hollyhock in the Chatham area, but only a few plants were severely damaged This southern European species is new to Canada, but was reported previously from Lorain County, Ohio, U.S.A.

A CUCUJID, Oryzaephilus mercator - An infestation occurred on insect specimens in the Canadian National Collection at Ottawa during the year. This is the only known occurrence of the insect in Canada.

BLACK LARDER BEETLE (Dermestes ater) - Large numbers were reported to be present in several dwellings at Brookville, Ontario, constituting the first more or less general infestation on record in Canada. Previous records of establishment involved a dwelling in Windsor, Ontario, and one in Toronto, Ontario, both occurring in 1947.

A FLEA BEETLE, Psylliodes chrysocephala. - Larvae and pupa were collected on rape on a farm at Topsail near St. Johns, Newfoundland. The extent of the infestation is not yet known, but the occurrence constitutes a new record for North America. The species is a common pest of cruciferous crops in Europe.

SURVEY METHODS

MEXICAN FRUIT FLY (Anastrepha ludens)

There are two methods used to determine the presence of Mexican fruit flies in the citrus orchards of the Regulated Area of Texas. One of these is the operation of traps for the purpose of measuring the adult fruit fly population. The other is grove inspection for the purpose of determining whether or not the fruit is infested. Traps are also useful in determining when the first infested fruit will be found, as this can be very closely estimated after the first gravid female is trapped.

The traps are of the glass flask type, using liquid bait, with an opening through the bottom to permit entrance of the flies. These traps are hung in the citrus trees, four or five feet above the ground and well into the center of the trees. The bait used is brown sugar and water. One and two-tenths pounds of sugar to a gallon of water is an effective mixture. Two gallons of bait is sufficient to fill twenty traps. They are placed in selected orchards scattered over the various districts, insuring a complete coverage over the entire Regulated Area. The most healthy groves are selected in which to place the traps. Trees with heavy foliage are most desirable for trapping, since the adult fruit fly prefers the shade to sunlight. The traps are usually set twenty to an orchard and are arranged in a rectangular pattern. They are placed in two rows, usually beginning with the outside row of the grove and are spaced one trap to every third tree in the row. The best arrangement is to place eight traps in a row, with two traps across the ends and another eight traps down an inside row, forming a perfect rectangle. The traps are inspected once each week, at which time they are cleaned and rebaited. One inspector can operate two hundred traps a day. Trap operations normally begin in the early fall and continue until late spring or at such a time as larval infestations are found generally over the entire Regulated Area.

Grove inspections are made for the purpose of determining whether or not larval infestations are present in the fruit. The result of these inspections governs the movement of the fruit from the groves to non-infested area. If the fruit is free of infestation of the Mexican fruit fly, it can move through regular channels without further treatment. In case larvae are found, the fruit must be sterilized before shipment to free areas. The most satisfactory method of grove inspection is to take one or two rows at a time and work from one side of the grove to the other until all the trees have been checked. The inspector examines fruit on the ground in looking for larval infestations. It is not possible to examine all the fruit which might be on the ground as there are other factors, such as, cultivation, winds, mechanical injury and disease, which cause fruit to drop. It is necessary, therefore, for the inspector to know what fruit to eliminate in his inspections. The trained or experienced inspector is able to distinguish, in almost every instance, infested fruit from those which have fallen from these other causes. The fruit fly lays its egg in the fruit while it is still on the tree. The eggs hatch into small worms which begin working inside the fruit and caused considerable internal damage. It also takes on a discoloration on the outside which is quite helpful to the trained eye in finding infested fruit. For instance, the light yellow color of a normal grapefruit changes into dark amber color, or somewhat more of an orange color. Early-season inspections are usually confined to grapefruit since it is the most preferred host and, as a rule, the first infestations are always found in this type of citrus. The simplest and quickest procedure to determine whether or not the fruit is infested is to clip both the stem and blossom ends with a sharp knife, avoiding cutting deep enough to rupture the juice cells. If an infestation is present in its early stage, small shotlike holes having the appearance of having been drilled and brownish threadlike tunnels are quite noticeable in the rag of the fruit. If it is an advanced stage there will be unmistakable internal evidence, such as the breaking down of the juice cells and a complete honeycomb condition showing in one or both ends. Fruit from infested groves is required to receive the vapor-heat (a heated mixture of saturated vapor, air and fine water mist) treatment before moving to non-infested areas. Grove inspections are continued until such time as a general infestation is found throughout the Regulated Area. Whenever the infestations build up to a point where a majority of the groves are found infested, grove inspections are discontinued, and the entire Area is declared an infested zone. All fruit shipped from the Regulated Area for the remainder of the season is required to be sterilized by the vapor-heat method before moving to non-infested areas and inspectors devote full-time to the supervision of this process. (B. C. Stephenson)